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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,003	02/20/2002	Peter Haug	1376-01	6145

35811 7590 09/30/2003

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EXAMINER

ALEJANDRO, RAYMOND

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 09/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

10/079,003

Applicant(s)

HAUG ET AL.

Examiner

Raymond Alejandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 04/11/02 (paper # 4) was considered by the examiner.

Claim Language Suggestions

3. In claim 4, it is suggested to replace the term “electrochemically” with the language “electrochemically active material” so as to better reflect the intended scope of the claim. Appropriate correction is required.
4. In claim 9, it is suggested to replace the phrase “from benzotriazole or chromatization is applied by immersion” with the language “from benzotriazole or chromatization which is applied by immersion” so as to better reflect the intended scope of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3 and 7-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Bittihn et al 5047302.

The instant application is directed to a galvanic element wherein the disclosed inventive concept comprises the specific substrate having deposited a layer thereon. Other limitations include the conductor material; the electrochemically active material; the thickness of the substrate and the crystallite size; the number of layers; the corrosion layer; and the laminated substrate.

Regarding claim 1:

Bittihn et al disclose a galvanic cell having at least one electrode with an active material which comprises a substrate covered with a natural oxide film (*the natural oxide film, thus, represents the identical or substantially identical metal*) and an electron-conducting coating covering the natural oxide film (CLAIM 1); wherein the aluminum substrate is a foil material (CLAIM 5).

The electrochemically deposited “crystallites and its function or property of enlarging contact area of the element and reducing contact resistance to the active material” is an inherent characteristic, function or property of the material. Accordingly, products of identical chemical composition can not have mutually exclusive properties, and thus, the foregoing claimed property, is necessarily present in the prior art material.

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Regarding claim 2:

It is disclosed that the substrate is made from aluminum (CLAIMS 1 and 5).

Regarding claim 3:

It is disclosed that the electrode coating is made from a metal selected from the group consisting of at least Ni, Cr or Cr-Ni alloy (CLAIM 2).

Regarding claims 7-8:

It is disclosed that the electrode comprises of multi-layer structure (CLAIM 1 and 9). *It is noted that the language "a maximum of 10 layers" does encompass from 0 to up to 10 layers, and therefore, the language includes 0 number of layers. It is also noted that the electrode multilayer structure includes at least 1 layer too.*

Regarding claim 9:

Bittihn et al makes known that the substrate is coated with a heavy metal which is resistant to corrosion wherein the corrosion resistant heavy metal is chromium, a chromium-nickel alloy or a precious metal (CLAIM 9-10). *As to the method limitation, i.e. by immersion or the implication of the language "chromatization" per se, it is noted that a method limitation incorporated into a product claim does not patentable distinguish the product because what is given patentably consideration is the product itself and not the manner in which the product was made. Therefore, the patentability of a product is independent of how it was made.*

Regarding claim 10:

Bittihn et al also disclose the lamination-type electrode comprising a substrate foil laminated with an active material (CLAIM 1).

Thus, the claims are anticipated.

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7. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakanishi et al US 2002/0142211.

As for claim 1:

Nakanishi et al disclose a negative electrode formed by coating a current collector of copper foil with a negative electrode active material (SECTION 0102/ CLAIM 1). It is further disclosed that the substrate is a foil (SECTION 0114, 0145). It is also disclosed that the collector plate comprises a plurality of layers including a copper layer made of copper or an alloy thereof, and a metal layer made of a metal not forming an intermetallic compound with lithium (SECTION 0034, 0037/CLAIM 1).

The electrochemically deposited “crystallites and its function or property of enlarging contact area of the element and reducing contact resistance to the active material” is an inherent characteristic, function or property of the material. Accordingly, products of identical chemical composition can not have mutually exclusive properties, and thus, the foregoing claimed property, is necessarily present in the prior art material.

Examiner’s note: it is noted that Nakanishi et al’s teaching of having the negative electrode current collector comprising a plurality of layers has been interpreted to apply to both the coated current collector of the negative electrode and the current collector plate per se (i.e. the current collecting structure) as they both are made from substantially the same material and have also substantially similar functionality of collecting current therethrough.

Regarding claim 2:

It is disclosed that usable materials for current collector plate is Cu, Al, Ni, Ti, or an alloy thereof (SECTION 0072).

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As for claim 3:

It is disclosed that the metal for forming the metal layer of the negative electrode current collector is for example, nickel, titanium, chromium (SECTION 0034).

Regarding claim 4:

Table 1 and **Table 3** shows invention cells 1 and 12 wherein the thickness of the Ni layer is 0.02 mm (or 20 μ m) (SECTION 0126 & 0128 or Table 1 and 3).

As for claims 5-6:

It is disclosed that the copper current collector has a thickness of 20 μ m (SECTION 0161, 0184).

As for claims 7-8:

Nakanishi et al disclose a two-layer negative electrode current collector (SECTION 0105 and 0118). *It is noted that the language "a maximum of 10 layers" does encompass from 0 to up to 10 layers, and therefore, the language includes 0 number of layers. It is also noted that the electrode multilayer structure includes at least 1 layer too.*

As to claim 9:

It is disclosed that the metal for forming the metal layer of the negative electrode current collector is at least chromium or nickel (SECTION 0034). *Thus, it is asserted that a corrosion layer is formed thereon. In addition, a chromium metal layer is also formed. As to the method limitation, i.e. by immersion or the implication of the language "chromatization" per se, it is noted that a method limitation incorporated into a product claim does not patentably distinguish the product because what is given patentably consideration is the product itself and not the*

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manner in which the product was made. Therefore, the patentability of a product is independent of how it was made.

With reference to claim 10:

It is taught that the electrochemically active material is laminated on the substrate having a foil shape (SECTION 0114, 0145).

Thus, the claims are anticipated.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (703) 306-3326. The examiner can normally be reached on Monday-Thursday (8:30 am - 7:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Raymond Alejandro
Examiner
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A handwritten signature in black ink, appearing to read 'RAM', with a long horizontal line extending from the bottom right of the signature.